U.PORTO
FMUP FACULDADE DE MEDICINA
UNIVERSIDADE DO PORTO

MESTRADO INTEGRADO EM MEDICINA

2015/2016

Maria João de Freitas Domingues

Psychological Burden on Physicians Delivering Bad News

março, 2016

Maria João de Freitas Domingues

Psychological Burden on Physicians Delivering Bad News

Mestrado Integrado em Medicina

Área: Psicologia Médica

Tipologia: Monografia

Trabalho efetuado sob a Orientação de:

Doutora Susana Sousa Almeida

Trabalho organizado de acordo com as normas da revista:

Medical Education

março, 2016

U.PORTO
FMUP FACULDADE DE MEDICINA UNIVERSIDADE DO PORTO
UNIDADE CURRICULAR
PROJETO DE OPÇÃO
DISSERTAÇÃO / MONOGRAFIA

Projeto de Opção do 6º ano - DECLARAÇÃO DE INTEGRIDADE

Eu, Maria João de Freitas Domingues, abaixo assinado, nº mecanográfico 201000165, estudante do 6º ano do Ciclo de Estudos Integrado em Medicina, na Faculdade de Medicina da Universidade do Porto, declaro ter atuado com absoluta integridade na elaboração deste projeto de opção.

Neste sentido, confirmo que **NÃO** incorri em plágio (ato pelo qual um indivíduo, mesmo por omissão, assume a autoria de um determinado trabalho intelectual, ou partes dele). Mais declaro que todas as frases que retirei de trabalhos anteriores pertencentes a outros autores, foram referenciadas, ou redigidas com novas palavras, tendo colocado, neste caso, a citação da fonte bibliográfica.

Faculdade de Medicina da Universidade do Porto, 19/03/2016

Assinatura conforme cartão de identificação:

Maria João de Freitas Domingues

U.PORTO
FMUP FACULDADE DE MEDICINA UNIVERSIDADE DO PORTO
UNIDADE CURRICULAR
PROJETO DE OPÇÃO
DISSERTAÇÃO / MONOGRAFIA

Projecto de Opção do 6º ano – DECLARAÇÃO DE REPRODUÇÃO

NOME

Maria João de Freitas Domingues

NÚMERO DE ESTUDANTE	DATA DE CONCLUSÃO
201000165	19/03/2016

DESIGNAÇÃO DA ÁREA DO PROJECTO

Psicologia Médica

TÍTULO ~~DISSERTAÇÃO~~/MONOGRAFIA (riscar o que não interessa)

Psychological Burden on Physicians Delivering Bad News

ORIENTADOR

Doutora Susana Sousa Almeida

COORIENTADOR (se aplicável)

ASSINALE APENAS UMA DAS OPÇÕES:

É AUTORIZADA A REPRODUÇÃO INTEGRAL DESTE TRABALHO APENAS PARA EFEITOS DE INVESTIGAÇÃO, MEDIANTE DECLARAÇÃO ESCRITA DO INTERESSADO, QUE A TAL SE COMPROMETE.	☒
É AUTORIZADA A REPRODUÇÃO PARCIAL DESTE TRABALHO (INDICAR, CASO TAL SEJA NECESSÁRIO, Nº MÁXIMO DE PÁGINAS, ILUSTRAÇÕES, GRÁFICOS, ETC.) APENAS PARA EFEITOS DE INVESTIGAÇÃO, MEDIANTE DECLARAÇÃO ESCRITA DO INTERESSADO, QUE A TAL SE COMPROMETE.	☐
DE ACORDO COM A LEGISLAÇÃO EM VIGOR, (INDICAR, CASO TAL SEJA NECESSÁRIO, Nº MÁXIMO DE PÁGINAS, ILUSTRAÇÕES, GRÁFICOS, ETC.) NÃO É PERMITIDA A REPRODUÇÃO DE QUALQUER PARTE DESTE TRABALHO.	☐

Faculdade de Medicina da Universidade do Porto, 19/03/2016

Assinatura conforme cartão de identificação: Maria João de Freitas Domingues

À minha triba,

à minha família

e aos meus amigos.

Psychological Burden on Physicians Delivering Bad News

Maria Freitas Domingues[1], Susana Sousa Almeida[1,2,3]

1. Faculty of Medicine, Faculdade de Medicina da Universidade do Porto, Portugal;
2. Psycho-Oncology Department, Instituto Português de Oncologia do Porto, Portugal;
3. Psychiatry Department, Hospital Cuf Porto, Portugal

Abstract

Introduction

Breaking bad news is a recognized source of stress for patients, but the impact of these consultations on the physician has not been paid as much attention. This work aims to raise awareness of this problem through revision of the existent literature whilst proposing strategies to deal with it.

Methods

MEDLINE search of English and Portuguese articles published until March 2016 was conducted, using combinations of the search terms: psychological, burden, stress, doctor, physician, bad news. After evaluation of the articles and their reference lists, a subset of papers was included in this review.

Results

Physicians feel, since the first steps into their medical career, that delivering bad news is a stressful and fearful event, despite being necessary as a part of providing good care to patients. Their stress is reported by the doctors but can also be detected by measuring changes in heart rate and skin conductance. The most concerning aspects of this perception of stress is when it is overcome by the burnout syndrome, which may lead to poorer quality of patient care, and compassion fatigue, which is related to troubling psychosocial symptoms. Intrinsic characteristics of physicians and clinical communication training do not seem to influence the perception of stress. Strategies such as Mindfulness-Based Stress Reduction (MBSR) have been proposed as helpful. More trials must be

developed to compound further evidence on their efficacy to diminish the perceived burden and ameliorate both the physicians' health and the patients' care.

Conclusion

Increased awareness of the burden felt by physicians and early recognition of the common signs of these problems will likely lead to the implementation of measures that may help fighting these issues. However, further studies are recommended to ascertain this statement.

Keywords

Clinical Education; Communication Skills; Physician/Patient Relationship; Evaluation/Assessment of Clinical Performance; Professional Development

Introduction

Although it is widely agreed that breaking bad news is a stressful event for patients(1), not as much attention has been devoted to the effects of these encounters on physicians. In fact, the medical literature dedicated to training physicians to deliver bad news to their patients in the most adequate way is vast(2), but the psychological impact this process has on medical professionals has been less investigated, most of it systematized on studies developed on the oncology setting.(2-9).

It is progressively being recognized that delivering bad news is a stressful event for doctors (2), being associated with stress(10) and burnout(2), a syndrome encompassing emotional exhaustion, depersonalization and low personal accomplishment(4). These feelings are reported in both under- and post-graduate levels(4, 11, 12), across different specialties(4) and different degrees of clinical experience(12), making these common medical tasks increasingly more burdensome(12), leading to a decrease in the quality of doctor-patient

relationship and to detrimental effects on the doctors' life, both professionally and personally(4, 12, 13).

Given that the information available on this topic is widely spread amongst the available databases, the main objective of our work is to explore documented impact that breaking bad news has on physicians' health, particularly their emotional and psychological well-being, and which are the proposed strategies to prevent and to overcome this problem.

Methods

A search was conducted in MEDLINE for either English or Portuguese articles published until March 2016 with the key search terms psychological AND burden OR stress AND physician OR doctor AND bad news. Additional papers were identified and analyzed from these articles' reference lists. Each of the papers was submitted to an abstract evaluation, and 47 articles were considered relevant after this preliminary assessment. Following a full analysis of the studies, 23 articles were included in this work.

Results

One of the most widely accepted definitions of “bad news” describes this concept as “any information which produces a negative alteration to a person’s expectations about their present or future.”(14) In being so, it is easily understandable how conveying this type of message can be highly disturbing to the patient and their relatives, and why research in this area is prolific. However, the bad news bearer is also affected by these events(2), especially those who do it on a regular basis(15). This notion conflicts the established idea of the doctor as “untouchable” and devoid of emotion(15).

Physicians have a negative perception on breaking bad news, considered stressful events(2) that cause apprehension, anxiety and fear(16); it is seen as a fundamental part of Medicine, however unpleasant and painful(16). This perception is felt not only by fully-educated physicians, but by medical students as well(12). Moreover, it does not seem to become any easier to deal with these encounters as doctors gain experience(12), despite being recognized by

physicians that inadequate training in communication skills contributes greatly to burnout(17).

The stress responses also translate in physiological changes, such as increase in heart rate and skin conductance in anticipation of the breaking bad news consultations(10); these findings suggest that physicians are cognitively and emotionally engaged with the bad news task, hoping to meet the patients' needs when it comes to giving adequate information and dealing with emotions(10). Moreover, studies of simulated breaking bad news consultations have shown that the majority of doctors show a short, small degree stress response which peaks while anticipating the delivery of the information, followed by a decrease of it whilst reading the case information and prior to the consultation(5, 10).

Particular settings pose different degrees of difficulty. Generally, it is acknowledged that working with complex families, as well as demanding, rude or even hostile patients, is challenging (18). Also, conveying bad news regarding a child's illness is viewed as uncomfortable by nearly 75% of doctors who treat

children(19), although being able to do so in a correct manner is seen by the majority of physicians as a very important skill(19).

Commonly identified physician fears when breaking bad news comprise being blamed by the patient for the bad news, dealing with the patient's emotions, anxiety about how to inform the patient, and wishing to avoid the consultation(12). Medical students also report these fears, but include fear of patient's difficult questions and of not knowing how to continue the consultation(12).

A step down on chronic stress is the burnout syndrome, already described as "a professional psychological stress-induced syndrome defined by the three dimensions: emotional exhaustion, depersonalization and low personal accomplishment"(4). This syndrome has a severely harmful effect on physicians' quality of life and it has been linked to an increased risk of suicidal ideation, poorer quality of patient care, increased medical mistakes and litigations, diminished empathy, job withdrawal and nonattendance, as well as anxiolytic misuse(4). As assessed by the Maslach Burnout Inventory, a gold-standard

measure, more burnout has been reported amongst physicians who routinely deal with chronically ill or dying patients, such as Oncologists, but also amongst medical residents(4).

Although sometimes used as synonyms, it has been reported that doctors are also vulnerable to compassion fatigue, which is described as occurring when a healthcare provider feels “overwhelmed by repeated empathic engagement” with patients, being characterized by reliving aspects of the trauma, avoiding reminders of the event, as well as psychosocial symptoms such as irritability, altered sleep patterns, sadness and avoidance of tasks(20). While it has been recognized to be emotionally distressing, without adequate awareness of this issue professionals will fail to detect compassion fatigue (20).

Associated burden levels are surprisingly high, with nearly half of oncologists reporting high levels of burden(2) and about a fifth confessing the willing to leave oncology work due to this burden(2). Interestingly, the physicians’ background – such as age, gender, specialty, experience and frequency of delivering bad news,

formal communication skills training, among others - has not been demonstrated to be a determinant of reported burden(2, 13); on the other hand, factors such as a high workload, a lack of personal or vacation time, a sensation of fallibility as a doctor, emotions and a difficult working environment have been reported as associated to burnout(4).

Indeed, formal training does not seem to reduce the perceived stress of breaking bad news, albeit it may make doctors more confident on their skills, more empathetic, supportive and more effective, and is overall perceived by the vast majority of physicians to be extremely important to receive such training(13, 21). Doctors fear losing control of their behavior when delivering bad news, such as the switch of treatment – from adjuvant therapies to palliative care(17). It is an emotive process, especially if a long-term doctor-patient relationship exists, and it may elicit existential thoughts in physicians, related with human death and even their own perishable nature(17).

In order to diminish the burden experienced by physicians, it is recognized that active measures should be taken to alleviate such agonizing feelings(4). Among the suggested interventions, the most commonly referred and thus most widely agreed upon are the improvement of clinical communication skills(2, 4, 15), the improvement of breaking bad news conditions(2) – such as allowing sufficient time and an adequate environment for the consultation and securing the availability of multidisciplinary care teams who cooperate to streamline patient care(2) – , and the acquisition of stress management mechanisms that would assist doctors in resisting stress and burnout(4, 15).

In fact, it has been reported that courses directed to the learning of how to manage stress have been able to reduce levels of burnout over the short and long term(4, 22), improving doctors' sensation of wellbeing as well as refining their attitudes towards providing the best health care to their patients(4), whilst helping physicians pull through the burnout syndrome and lessening the rate of suicidal ideation in medical students(4). Such approaches may include the acquisition of knowledge in areas such as existentiality of spirituality according to

one's creed(17), but also through MBSR mechanisms that have demonstrated their effectiveness in reducing significantly stress and burnout, decreasing emotional exhaustion, depersonalization and judgmental attitudes towards patients as well as a positive impact in the physicians' overall wellbeing(23).

Conclusion

The impact of the breaking bad news process must be recognized and accepted as a fundamental part of the doctor-patient relationship and as an important variable regarding both patients' and doctors' wellbeing, with a clinically relevant influence in the health care provided. The high prevalence of burden within the medical community should be adequately detected by clinicians as well as by their peers, which should be aware of the common signals of burnout and compassion fatigue and therefore prompt the implementation of coping strategies amongst medical teams, possibly through the creation of support groups and the application of MBSR mechanisms, which have already shown promising results in the aforementioned studies, in both physicians' wellbeing and patient care(23). However, it is our belief that further studies should be conducted to ascertain the precise benefit of such approaches in a more general setting of medical care, in different medical specialties as well as in other healthcare professionals.

Contributors

MFD: Conception and design of the manuscript; acquisition, analysis and interpretation of data; drafting the article; final approval of the version to be published.

SSA: Conception and design of the manuscript; critical revision of the article for important intellectual content; final approval of the version to be published.

The authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Acknowledgements

None.

Funding

None.

Conflicts of Interest

None.

Ethical Approval

Not applicable to this review.

References

1. Cohen L, Baile WF, Henninger E, Agarwal SK, Kudelka AP, Lenzi R, et al. Physiological and psychological effects of delivering medical news using a simulated physician-patient scenario. J Behav Med. 2003;26(5):459-71.

2. Otani H, Morita T, Esaki T, Ariyama H, Tsukasa K, Oshima A, et al. Burden on oncologists when communicating the discontinuation of anticancer treatment. Jpn J Clin Oncol. 2011;41(8):999-1006.

3. Fujimori M, Shirai Y, Asai M, Akizuki N, Katsumata N, Kubota K, et al. Development and preliminary evaluation of communication skills training program for oncologists based on patient preferences for communicating bad news. Palliat Support Care. 2014;12(5):379-86.

4. Blanchard P, Truchot D, Albiges-Sauvin L, Dewas S, Pointreau Y, Rodrigues M, et al. Prevalence and causes of burnout amongst oncology residents: a comprehensive nationwide cross-sectional study. Eur J Cancer. 2010;46(15):2708-15.

5. Brown R, Dunn S, Byrnes K, Morris R, Heinrich P, Shaw J. Doctors' stress responses and poor communication performance in simulated bad-news consultations. Acad Med. 2009;84(11):1595-602.

6. Armstrong J, Lederberg M, Holland J. Fellows' forum: a workshop on the stresses of being an oncologist. J Cancer Educ. 2004;19(2):88-90.

7. Armstrong J, Holland J. Surviving the stresses of clinical oncology by improving communication. Oncology-Ny. 2004;18(3):363-8.

8. Stayt LC. Death, empathy and self preservation: the emotional labour of caring for families of the critically ill in adult intensive care. J Clin Nurs. 2009;18(9):1267-75.

9. Baile WF, Lenzi R, Kudelka AP, Maguire P, Novack D, Goldstein M, et al. Improving physician-patient communication in cancer care: outcome of a workshop for oncologists. J Cancer Educ. 1997;12(3):166-73.

10. Shaw J, Brown R, Heinrich P, Dunn S. Doctors' experience of stress during simulated bad news consultations. Patient Educ Couns. 2013;93(2):203-8.

11. Sarikaya O, Civaner M, Kalaca S. The anxieties of medical students related to clinical training. Int J Clin Pract. 2006;60(11):1414-8.

12. Hulsman RL, Pranger S, Koot S, Fabriek M, Karemaker JM, Smets EM. How stressful is doctor-patient communication? Physiological and psychological stress of medical students in simulated history taking and bad-news consultations. Int J Psychophysiol. 2010;77(1):26-34.

13. Ptacek JT, McIntosh EG. Physician challenges in communicating bad news. J Behav Med. 2009;32(4):380-7.

14. Aitini E. Breaking bad news in onco-hematology: new hope, new words? Leuk Lymphoma. 2012;53(2):328-9.

15. Tanriverdi O. A medical oncologist's perspective on communication skills and burnout syndrome with psycho-oncological approach (to die with each patient one more time: the fate of the oncologists). Med Oncol. 2013;30(2):530.

16. Shaw JM, Brown RF, Dunn SM. A qualitative study of stress and coping responses in doctors breaking bad news. Patient Educ Couns. 2013;91(2):243-8.

17. Friedrichsen M, Milberg A. Concerns about losing control when breaking bad news to terminally ill patients with cancer: physicians' perspective. J Palliat Med. 2006;9(3):673-82.

18. Klassen A, Gulati S, Dix D. Health care providers' perspectives about working with parents of children with cancer: a qualitative study. J Pediatr Oncol Nurs. 2012;29(2):92-7.

19. Harrison ME, Walling A. What do we know about giving bad news? A review. Clin Pediatr (Phila). 2010;49(7):619-26.

20. Benoit LG, Veach PM, LeRoy BS. When you care enough to do your very best: genetic counselor experiences of compassion fatigue. J Genet Couns. 2007;16(3):299-312.

21. Moore PM, Mercado SR, Artigues MG, Lawrie TA. Communication skills training for healthcare professionals working with people who have cancer. Cochrane Db Syst Rev. 2013(3).

22. Krasner MS, Epstein MD, Beckman H, Suchman AL, Chapman B, Mooney CJ, et al. Association of an Educational Program in Mindful Communication With Burnout, Empathy, and Attitudes Among Primary Care Physicians. JAMA. 2009;302(12):1284-93.

23. Dobkin PL, Bernardi NF, Bagnis CI. Enhancing Clinicians' Well-Being and Patient-Centered Care Through Mindfulness. J Contin Educ Health Prof. 2016;36(1):11-6.

Agradecimentos

À Doutora Susana Sousa Almeida, pelo apoio desde as aulas de Psicologia Médica até à realização deste projecto, que muito nos orgulhou e fez crescer.

À minha triba, por serem tudo para mim – não poderia pedir melhor.

À minha família, por ter sentido sempre de todos eles um enorme apoio em todos os projectos e aventuras em que me envolvi, em particular nesta monografia.

Aos meus amigos, pelo companheirismo, amizade e cartazes de apoio que sempre estiveram presentes nesta jornada.

A todos, um sentido Obrigada!

Anexos

Anexo único – Normas para autores da revista *Medical Education*

Medical Education

Author Guidelines

Medical Education is an international, peer-reviewed, journal with distribution to readers in more than 80 countries. The journal seeks to enhance its position as the pre-eminent journal in the field of education for health care professionals and aims to publish material of the highest quality reflecting world wide or provocative issues and perspectives. The contents will be of interest to learners, teachers and researchers. It aims to have a significant impact on scholarship in medical education and, ultimately, on the quality of health care by prioritising papers that offer a fundamental advance in understanding of educationally relevant issues. The journal welcomes papers on any aspect of health professional education.

1. The journal's mission in education and research

Manuscripts and reviews submitted to *Medical Education* may be used by the editorial team for teaching and research purposes with potential authors and reviewers. Authors and reviewers may be asked from time to time to take part in surveys. Every effort will be made to protect confidentiality. Names will not be passed to third parties.

2. Ethical issues

Manuscripts should be prepared in accordance with the *ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals* (see http://www.icmje.org/). All manuscripts are considered on the understanding that they have not been published previously in print or electronic format and that they are not under consideration by another publication or medium. *Medical Education* is committed to the Committee on Publication Ethics (COPE) Code of Conduct (http://publicationethics.org/). Authors should familiarise themselves with issues of publication ethics noted by COPE including duplicate publication, duplicate submission and 'salami slicing' as these behaviours will not be accepted. By submitting your manuscript to *Medical Education* you accept that your manuscript may be screened for plagiarism against previously published works.

3. Submission of manuscripts

Manuscripts should be submitted online at http://mc.manuscriptcentral.com/medicaleducation . Full instructions and support are available on the site. Papers not correctly formatted will be returned to the authors for correction and resubmission. It is recommended that, where possible, figures are embedded at the end of the manuscript in a single document. Identifying details (see section 8) are requested during the submission process rather than in a separate

document. If you cannot submit online, please contact the Editorial Office (*Medical Education*, Plymouth Science Park, Davy Road, Plymouth PL6 8BX, UK. E-mail: med@mededuc.com).

4. Criteria for manuscripts

All manuscripts should meet the following criteria: the writing is clear and the information important and likely to be of interest to an international audience. For research papers, the study methods should be appropriate and the data valid; and for both discussion papers and research papers, the conclusions should be reasonable, should be supported by evidence with proper citation, and should offer a compelling argument for how publication of the work would advance understanding for the field. Consonant with this latter criterion, we do not generally publish curriculum descriptions or quality evaluations primarily of relevance to specific locations. Papers are selected for peer review and publication based on these criteria. We publish roughly 10% of research manuscripts received each year. We welcome contributions from authors whose first language is not English, although it is recommended that the manuscript be reviewed and edited by a colleague or commercial editor who is fluent in written English prior to submission. All authors are encouraged to review the Guidelines for Reviewers (see Med Educ 2009; 43:2-4 and click 'read' at www.mededuc.com) prior to submitting their manuscripts.

5. Editorial and peer review process

All submitted manuscripts are read initially by the editor. One or more associate editors may also be involved in early decision making. Papers with insufficient priority for publication are rejected at this stage. Other manuscripts are sent to experts in the field for peer review. Author identity is not disclosed to reviewers, but reviewers are encouraged to sign their reviews in the interest of providing responsible feedback (see Med Educ 2012; 46:924-5). Guidelines for reviewers are available from www.mededuc.com click 'read'. Average time to initial decision is less than one month and nearly all manuscripts receive such a decision within 12 weeks. All accepted manuscripts are edited according to the journal's style and returned to the author as page proofs for approval. Authors are responsible for all statements made in their work.

6. Categories of manuscript

Medical Education publishes original research papers, review articles, special feature pieces, and short reports of research in progress or of educational innovation, commentaries, and letters to the editor. Specific guidelines are shown below:
Original Research: Generally less than 3,000 words, but longer papers will be accepted if the context warrants the inclusion of more text (see Med Educ 2010; 44:432). An abstract, structured under subheadings, of no more than 300 words must be included and the paper should contain a maximum of five tables or figures with references included in the Vancouver style. The paper will usually be organised using

the Introduction, Methods, Results, and Discussion (IMRAD) structure. The introduction should include a strong conceptual framework that indicates how publication of the paper can be expected to fill a gap in knowledge that is important for the field to fill. The context of the work and your choice of methods must be made clear. Qualitative and quantitative research approaches are equally welcome. All papers must also clearly articulate how the findings should be interpreted and how they advance understanding of the issue under study. See Med Educ 2009; 43:294-6.

Review articles: Generally less than 3,000 words, plus a structured abstract of no more than 300 words. References must be in Vancouver style and up to 2 tables or figures are permissible. Systematic or critical reviews are welcome, but again, both types of reviews will be held to the criterion of needing to advance understanding beyond the current. See Med Educ 2008; 42:852-3.

The Cross-Cutting Edge: Generally less than 4000 words plus a structured abstract of no more than 300 words. References must be in Vancouver style and up to 2 tables or figures are permissible. Authors are warned that Cross-cutting edge papers are aimed at a very particular niche, which is to make cutting edge research (empirical findings and theory) that is relevant to but generally published outside of health professions education journals (i.e., cross-cutting) accessible to the readership of *Medical Education.* See Med Educ 42(10):950-1 for an overview and please send inquiries to med@mededuc.com if you are uncertain about whether or not your planned article fits this section. Ideas for topics/authors to recruit are also welcomed.

Really Good Stuff*: Lessons learned through innovation in medical education* Short structured report of no more than 500 words with no figures or tables and one allowable reference. These articles should have a maximum of four authors and the report should be organised into three sections: **What problem was addressed? What was tried? What lessons were learned?** Detailed guidelines for this section are available online at www.mededuc.com click 'read' or from 'Instructions and forms' on the online submission site http://mc.manuscriptcentral.com/medicaleducation. Authors are advised to also see Med Educ 2011; 45 (5) 434-5.

Commentaries**:** Brief discussion articles focused on a particularly timely issue in health professional education, these papers are up to 1,000 words in length and should include no more than 10 references. 5 short 'pull-out' quotations (extracted verbatim from the commentary, each of which is approximately 18 words long) should be supplied to highlight the main messages the author would like readers to take away from their commentary. An abstract is not required.

When I say…: Generally less than 500 words plus 5 references. These brief articles are aimed at clarifying important terminology within the field in a meaningful and entertaining way. Interested authors should consult Med Educ 2013; 47:856-7 for details regarding the specific focus of this series. As well, they should review the "When I say…" virtual issue (accessible by clicking 'read' at www.mededuc.com) along with more recent issues of the journal to ensure that the topic of interest has not already been covered.

Letters to the Editor: Up to 400 words plus 6 references in Vancouver style. Brief descriptions of research results or educational innovations are not accepted as letters because such documents belong in one of the sections describe above.

7. Preparation of manuscripts

A checklist to assist in the preparation of the manuscript for submission and the guidelines for authors are available by clicking 'instructions and forms' on **http://mc.manuscriptcentral.com/medicaleducation**

The anonymous manuscript

A full version of the manuscript as well as a fully anonymised version should be submitted. In the anonymised version authors should **NOT identify themselves or their institution**. This includes ensuring that neither the filename nor the footer/header contains the authors' names or initials.

Front matter: Authors should restrict *titles* to 15 words or fewer (90 characters including spaces), and the editor reserves the right to edit titles. Most manuscripts should also include a structured (i.e., sub-titled) abstract of up to 300 words.

Main text: We encourage the use of the active voice, short sentences and clear sub-headings throughout the text. The manuscript should be double-spaced with a wide margin (at least 3 cm) on either side. All pages should be numbered. Do not use abbreviations without first defining the abbreviation in full. All scientific units should be expressed in SI units. Both numbers and percentages should be given (not percentages alone) when relevant. Where *statistical methods* are used in analysis their use should be explained in the setting of the study and an appendix given if the method is particularly unusual or complex. For all research-oriented manuscripts a consideration of the strengths and weaknesses of the approach used should be included. To ensure that your paper is as impactful as it can be, authors are encouraged to consider tips for optimising the likelihood that their work will be identified through an internet search (see http://exchanges.wiley.com/authors/writing-for-seo_334.html).

End-matter: Where figures, tables or illustrations from other publications have been used, appropriate permissions should be obtained prior to submission.

Referencing should be double spaced using the Vancouver style. Authors are advised to consult the BioMedical Editor (http://www.biomedicaleditor.com/vancouver-style.html) for details of the Vancouver reference style. Additional illustrations/appendices can be published on-line as supplementary material.

Keep a copy of the original manuscript for reference. An e-mail acknowledgement of receipt will be sent by the journal. Any material sent to the Editorial Office will not be returned.

We reserve the right to copy edit papers to house style before final publication, but

substantive changes will be the responsibility of the authors.

8. The identifying information

The corresponding author should ensure that the following information is provided for each author during the submission process:

a) The full address, institution and contact details. It is the corresponding author's responsibility to ensure that each author holds a user account on the submission system and that the details held are current.

b) The individual contributions made by each author to the work described in the paper. All authors must meet all of the ICMJE criteria for authorship, which include:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

c) Details of any funding

d) Details of any acknowledgements

e) A statement indicating whether ethical approval was sought and received for the research described. **All work involving research on human subjects** must comply with the Declaration of Helsinki (http://www.wma.net/e/policy/b3.htm) and authors must confirm, where appropriate, that informed consent was given. We expect ethical approval to have been sought from an appropriate body, such as an Institutional Review Board (IRB) or Independent Ethics Committee (IEC), where such bodies exist to review educational research. Both the manuscript itself and the online submission form should indicate the outcome of the application, even when the decision was that no ethical approval was required. Where no formal framework for ethical approval is currently available, please provide a statement confirming if ethical considerations were made by a qualified person outside the group directly involved in work reported in this paper. There should also be a statement confirming the following points: That the work was carried out in accordance with the Declaration of Helsinki, including, but not limited to the anonymity of participants being guaranteed and the informed consent of participants being obtained. See Med Educ 2009; 43:194-5.

f) Details of any potential conflict of interest. A conflict of interest exists when professional judgement concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by secondary interests (personal matters such as financial gain, personal relationships or professional rivalry).

9. Copyright/licences

Following acceptance of an article for publication the corresponding author will receive an email from Wiley's Author Services system that asks the author to log in to

their online site where they will be presented with an appropriate licence for completion. Authors should ensure that they respond to this email promptly. Authors who wish to make their article open access and available to all on Wiley Online Library, including those who don't subscribe to the journal can do so by paying (or having their institution pay) for OnlineOpen. See http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1365-2923/homepage/FundedAccess.html for details about OnlineOpen as well as Wiley-Blackwell's policy on compliance with funder mandates.

10. Proofs

Proofs will be sent to the corresponding author via e-mail as an Acrobat PDF file. Your e-mail server must be able to accept attachments up to 4MB in size. Acrobat reader is required to read these proofs. It can be downloaded free of charge from www.adobe.com/. Authors are required to provide corrections promptly; if you are going to be out of e-mail contact for an extended period, please supply us with the contact details of someone who can attend to the proofs in your absence.

11. Fast tracking

A fast tracking system is in place for selected manuscripts. Papers of particular importance or topicality will receive priority when being scheduled for publication. Accepted and published papers may be used for publicity and public relations purposes.